

WHAT IS CLAIMED IS:

1. An optical module comprising:

a housing having a lower casing including a receptacle for mating with an optical connector, and a mount; an upper casing being engaged with the lower casing; and a cover for covering the upper casing;

an optical sub-assembly optically coupling with the optical connector in the receptacle;

a circuit board electrically connected to the optical sub-assembly and mounted on the mount of the lower casing; and

a block, mounted on the lower casing, for defining relative positions of the lower casing, upper casing, optical sub-assembly, and circuit board.

2. An optical module according to claim 1, wherein the receptacle of the lower casing has an abutting surface for abutting against one surface of the block; and

wherein one surface of the block and the abutting surface of the receptacle provide opening for receiving the optical sub-assembly.

3. An optical module according to claim 2, wherein the block further comprises a mounting portion for mounting the optical sub-assembly, a holding portion for holding the circuit board, and a pressing portion for pressing the circuit board;

wherein the optical sub-assembly is mounted to the

mounting portion, a leading end of the optical sub-assembly being inserted into the opening formed in the one surface; and

5 wherein the circuit board is held between the holding portion and pressing portion.

4. An optical module according to claim 3, wherein the block further comprises a center wall and a pair of side walls disposing the center wall therebetween; and

10 wherein the mounting portion is disposed between the center wall and one side wall; and

wherein the center wall is provided with the holding portion, each of the pair of side walls being provided with the pressing portion.

15 5. An optical module according to claim 2, wherein the lower casing has a projection at the mount, the block being held between a side face of the projection and the abutment surface.

6. An optical module according to claim 2, wherein the block provides a first cutout;

20 wherein the lower casing provides a second cutout;

wherein the upper casing provides first and second protrusions for engaging with the first and second cutouts, respectively; and

25 wherein the first and second protrusions engage with the first and second cutouts, respectively, so that one surface of the block and the abutment surface of the lower

casing come into contact with each other.

7. An optical module according to claim 6, wherein the block further comprises a mounting portion for mounting the optical device, a center wall, and a pair of side walls disposing the center wall therebetween;

wherein the mounting portion is disposed between the center wall and one side wall; and

wherein the first cutout is formed in the side wall.

8. An optical module according to claim 6, wherein the second cutout is formed in a side wall of the lower casing.

9. An optical module according to claim 2, wherein the upper casing further comprises a projection;

wherein the block further comprises a center wall and a pair of side walls disposing the center wall therebetween;

wherein the center wall provides a cutout; and

wherein a side wall of the projection and a cross section of the cutout come into contact with each other.

10. An optical module according to claim 1, further comprising a holder for holding the optical sub-assembly;

wherein the block further comprises a pair of side walls;

wherein a concavity is formed in an inner face of the pair of side walls;

wherein the holder surrounds the outside of the optical sub-assembly; and

wherein a leading end of the holder is inserted into

the concavity so as to hold the optical sub-assembly.

11. An optical module according to claim 1, wherein the block is made of a resin.

12. An optical module comprising:

5 an optical sub-assembly mounted with an optical device;

a circuit board electrically connected to the optical sub-assembly;

10 a lower casing having a receptacle for receiving an optical connector holding an optical fiber, and a mount for mounting the circuit board;

an upper casing for engaging the lower casing; and

a resin block for defining positions of the optical sub-assembly, circuit board, lower casing, and upper casing;

15 wherein the receptacle includes an abutting surface having an opening for receiving one end of the optical sub-assembly;

20 wherein the block comprises a front wall including one surface, in contact with the abutting surface, having an opening corresponding to the opening of the receptacle and receiving one end of the optical sub-assembly; a center wall; and a pair of side walls disposing the center wall therebetween;

25 wherein the center wall has a holding portion for holding the circuit board;

wherein each of the pair of side walls has a pressing

portion for pressing the circuit board;

wherein the holding portion and pressing portions hold the circuit board therebetween so as to define relative positions of the block and circuit board;

5 wherein the mount in the lower casing provides a projection;

wherein one side face of the projection and the abutting surface hold the block therebetween;

10 wherein the side wall of the block provides a first cutout;

wherein a side wall of the lower casing provides a second cutout;

wherein the upper casing provides first and second protrusions;

15 wherein the first and second cutouts engage with the first and second protrusions, respectively, so as to define relative positions of the lower casing, upper casing, and block.

13. An optical module comprising:

20 an optical sub-assembly mounted with an optical device therein;

a circuit board electrically connected to the optical sub-assembly;

25 a lower casing having a receptacle for receiving an optical connector holding an optical fiber, and a mount for mounting the circuit board;

an upper casing to engaging with the lower casing;
and

a resin block for defining positions of the optical
sub-assembly, circuit board, lower casing, and upper casing;

5 wherein the receptacle includes an abutting surface
having an opening for receiving one end of the optical
sub-assembly;

wherein the block comprises a front wall including
one surface, in contact with the abutting surface, having
10 an opening corresponding to the opening of the receptacle
and receiving one end of the optical sub-assembly; a center
wall; and a pair of side walls disposing the center wall
therebetween;

wherein the center wall has a holding portion for
15 holding the circuit board;

wherein each of the pair of side walls has a pressing
portion for pressing the circuit board;

wherein the holding portion and pressing portions hold
the circuit board therebetween so as to define relative
20 positions of the block and circuit board;

wherein an inner face of the upper casing provides
a projection;

wherein the center wall of the block provides a cutout;

wherein one surface of the projection and one surface
25 of the cutout of the center wall come into contact with each
other so as to hold the block between the projection and

the abutting surface of the receptacle;

wherein the side wall of the block is formed with a first cutout;

5 wherein a side wall of the lower casing is formed with a second cutout;

wherein the upper casing is formed with first and second protrusions; and

10 wherein the first and second cutouts engage with the first and second protrusions, respectively, so as to define relative positions of the lower casing, upper casing, and block.